

distribution system that includes at least two connectors, at least one of which must be of one "particular kind, class, or group" and at least another of which must be of a different "particular kind, class, or group."

If the Examiner considers the word "type" unclear in any way, the undersigned respectfully requests that she suggest different phraseology that would more clearly capture the invention being claimed.

REJECTIONS OF CLAIMS 1-5, 8, 10-13, 16 UNDER § 102

Independent system claim 1 and independent method claim 11 stand rejected as anticipated by U.S. Patent 5,540,602 to Bell. Applicant respectfully traverses the rejection.

Claim 1 recites "a plurality of connectors of a plurality of types." Claim 11 recites the method limitation of "providing a plurality of removable connectors of a plurality of types."

Bell does not disclose the use of more than one type of connector. Rather, Bell discloses a terminal junction block into which "terminals 24 terminated to conductor wires 26" can be inserted (C2/L37). Bell's specification (Fig. 1, C2/L49 - C3/L5) describes each of the "terminals 24" specifically as each only including a single pin contact section 34 extending forwardly from a single wire termination section 36. With regard to Fig. 6, Bell similarly teaches that the wires inserted into the bottom of that terminal block are of the same kind as the wires inserted into the top:

In FIG. 6 is shown an alternate embodiment of terminal junction block 100, shown as a feedthrough version. A housing member 14 is shown to be identical to lower body member [14] of FIGS. 1 to 5 . . . A second housing member 114 similar to housing member 14 has a face 186 for assembly to bottom face 86 of housing member 14 . . . seen along face 184 are embossments 154 similar to embossments 54 along top face 84 of housing member 14. [emphasis added]

Nowhere does Bell teach or suggest the use of any type of connector other than the single-conductor "terminals 24."

Because Bell does not describe the use of different types of connectors, as claimed in this application, the rejection fails to show anticipation by Bell and thus cannot stand. Perhaps acknowledging Bell's lack of express disclosure of different connector types, the Office Action asserts that Bell shows a power transmission system having a power distribution block with conduction paths to which "a plurality of connectors of different types can be . . . connected and removed." But assuming for the sake of argument that this undisclosed configuration of Bell is indeed possible, the rejection cannot rely on speculation about what "can be" done with Bell's disclosure. See In re Robertson, 49 USPQ2d 1949, 1950-51 (Fed. Cir. 1999) (reversing Board decision that reference's fastening means for attaching diaper "also could operate" as fastening means to close the diaper for disposal and that reference therefore inherently contained all the elements of rejected claim) (emphasis added).

The Office Action also rejects certain claims dependent on claims 1 and 11 but offers no explanation as to where or how Bell teaches the limitations added by dependent claims 5 and 13, for example.

Dependent claims 6-7, 9, 14-15, and 17 variously stand rejected under Section 103 as obvious over Bell alone or Bell in combination with U.S. Patent 5,514,009 to Hughes. All of these claims depend from either claim 1 or 11. Because claims 1 and 11 are allowable, as discussed above, their dependent claims are likewise allowable and applicant respectfully requests that these rejections also be withdrawn.

In sum, the rejections fail to show either express or inherent anticipation of claims 1, 11 or their dependent claims. Further, neither Bell nor any other cited reference provides any suggestion or motivation to combine or modify any reference to yield the claimed inventions. Accordingly, applicant respectfully solicits allowance of claims 1-17.

REJECTION OF CLAIMS 30-31 UNDER § 102

Claim 30 and its dependent claim 31 stand rejected as being anticipated by U.S. Patent 3,573,704 to Tarver. Applicant also traverses this rejection.

Claim 30 calls for an electrical connector comprising

a first portion . . . including a substantially circular first aperture . . .
and a second portion . . . including a substantially rectangular second
aperture, wherein the area of the second aperture is larger than the area
of the first aperture. [emphasis added]

The Office Action states that Tarver's connector has

a first portion 23 of conductive material with a circular hole to receive a
multi-strand coaxial cable bundle 22 and a second portion 21 made of
metal or plastic with a rectangular hole receiving an insulated cable 20
wherein the two holes are coaxial.

The comment appears to equate two elements of Tarver's connector with limitations of claim 30. First, it appears to consider the tube end extending from adapter 23 to be "a substantially circular first aperture." Second, the comment appears to consider the thin, wide aperture in adapter 21 of Tarver's connector, through which a ribbon cable 20 passes, to be a "substantially rectangular second aperture" as recited in claim 30. Accepting these points for the sake of discussion, Tarver's thin, wide aperture 21 would not meet another limitation of claim 30, namely that "the area of the second aperture is larger than the area of the first aperture" (claim 30, part (b)(1)). As is clearly depicted in Tarver's FIG. 1, aperture 21 (viewed as the claimed "second aperture"), which clamps onto flat cable 20, is smaller, not larger, than the tube end extending from adapter 23 (viewed as the claimed "first aperture").

Consequently, Tarver does not anticipate claim 30. No other cited reference teaches or suggests any modification to Tarver that would (implausably) make the aperture designed for the flat cable larger in area than the aperture designed for the round cable. Accordingly, applicant respectfully solicits allowance of claims 30 and 31.

REJECTION OF DEPENDENT CLAIMS 7 AND 15

In the alternative, applicant traverses the rejection of claims 7 and 15 because the Office Action fails to show any suggestion or motivation in any of the cited references to make the modification considered obvious.

Claims 7 and 15 call for the connector(s) of the first type to include "one or more mating interfaces that are couplable to cable having a circular cross-section." These claims further call for the connector(s) of the second type to include "one or more mating interfaces that are couplable to cable having a non-circular cross-section."

The Office Action correctly acknowledges that Bell does not teach "the connector interfaces being circular or non circular cross-sections." However, the rejection states that "the instant invention does not provide any reasons or problems to be solved by having a circular or non-circular cross-section." Not so. Applicant's specification clearly states that

cables can have various profiles (i.e., cross-sectional shapes) in addition to the rectangular profile of cables 120 and 140, such as square, elliptical, or, more traditionally, circular. A connector housing according to various aspects of the invention can be molded with an input aperture of various possible shapes to accommodate cable of a particular profile. [P13/L5-9, emphasis added]

While the Examiner's Official Notice that "circular and non-circular interfaces are well known in the art of electrical connectors" is no doubt correct, the mere citation of that prior knowledge is insufficient to reject claims 7 and 15. The rejection cites no teaching or suggestion in any cited reference (or the Official Notice) to employ connectors of first and second types including one or more mating interfaces that are couplable to cables having circular and non-circular cross sections, respectively.

The conclusory statement that "selection of any of these known equivalents would be within the level of ordinary skill in the art" is insufficient to sustain the rejection. The test is not whether modifying of a known device "would be" within the level of ordinary skill, assuming one of ordinary skill was somehow led to do so; it is whether there actually is some "teaching or suggestion in the prior art that would lead one of ordinary skill in the art" to make the modification. E.g., In re Chu, 36 USPQ2d 1089 (Fed. Cir. 1995). Accordingly, applicant respectfully requests withdrawal of the rejections of claims 7 and 15 even absent allowance of claims 1 and 11.

REJECTION OF CLAIMS 18-29 UNDER § 103

Independent claims 18, 24, and 25 and their dependent claims 19-23, 26-29 all stand rejected as being obvious over Bell, with no other reference cited. These claims variously call for

a column of fuse receptacles, each of the receptacles including first and second terminals . . . a first electrical conductor coupling together the first terminals . . . a second electrical conductor . . . coupling together the second terminals [claim 18, emphasis added];

arranging a plurality of fuses in an array wherein the fuse orientations are substantially parallel to each other . . . passing electrical current into and out of the array [claim 24, emphasis added];

a matrix of fuse receptacles having a plurality of columns and a plurality of rows, each receptacle having first and second terminals . . . electrical conductors coupling together the first terminals of the receptacles in each column . . . electrical conductors coupling together the second terminals of the receptacles in each column [claim 25, emphasis added].

Neither Bell nor any other reference of record discloses or suggests the advantageous fuse configurations of applicant's claims. Regarding those configurations, the Office Action states:

the use of fuses is common knowledge and fuses arranged in rows and columns are routinely used in most circuit breakers in household as well as in automobiles. It would have been obvious . . . to use fuses between the conduction paths because this would protect the electrical devices connected to the power distribution system.

This "common knowledge and routine use" offers no teaching or suggestion that would lead one of ordinary skill to modify Bell or any other reference to arrange fuses in a column with fuse terminals coupled together or in an array with current passed in and out of the entire array rather than through individual, separately connected fuses. In short, the routine use of arrays or columns of separate fuses does not anticipate or obviate the claimed use of interconnected fuses.

Applicant's disclosure summarizing certain aspects of the claimed inventions illustrates how the cited Bell reference and "common knowledge and routine use" fail to mention significant advantages of applicant's fuse configurations:

Advantageously, the respective mating interfaces of the opposite arrays connect together through respective columns of parallel-connected fuses. Thus, the overall current-carrying capacity of multiple electrical connections can increase without the need for large, bulky fuses. This arrangement is particularly advantageous when the fuse receptacles are configured to receive automotive fuses, which are compact, clearly labeled, and readily available. When the fuse receptacles are all oriented substantially parallel to each other, the fuse matrix is arranged in a way that is aesthetically pleasing, uses space efficiently, and permits quick inspection of fuse labels. [P5/L11-18]

Because the Office Action fails to cite any reference, combination of references, or suggestion of modification to any reference that would meet the limitations of claims 18, 24, and 25, applicant respectfully requests that the rejections of claims 18-29 be withdrawn.

CONCLUSION

Please feel free to telephone the undersigned if it would in any way advance prosecution of this application.

Respectfully submitted,

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